Remarks

Applicant submits the foregoing Amendment to the Specification and Claims; Entry of the Amendment and favorable consideration thereof is respectfully requested.

Priority

The Examiner has requested the filing of a certified copy of the priority patent application. The requested document was filed by mail dated April 19, 2007 and should now be of record in the application file.

Sequence Listing

A table of Sequence ID Numbers is submitted as Exhibit 1.

A Sequence Listing is submitted herewith as Exhibit 2, and file P11729US_Sequence_Listing.txt containing the Sequence listing in computer readable form is submitted herewith.

Enablement

The Examiner has rejected claims 1-3, 10-12, 17, 18, 21, and 26-27 under 35 U.S.C. §112, first paragraph, as not being enabled by the specification, on the grounds that the specification is enabling for *in vitro* methods of delivering a peptide to a cell expressing GM-1 ganglioside receptors on the surface of the cell using the specified mutant B-subunits of ETxB and CtB, but that claims read on both *in vitro* and *in vivo* methods. This rejection is respectfully traversed.

The physiological processes of antigen uptake and presentation operate in exactly the same way in a living cell *in vivo* as they do in a living cell *in vitro* cell culture. Data obtained using *in vitro* cell culture is therefore entirely representative of peptide delivery which would occur *in vivo* using the EtxB/CtxB mutants.

At the priority date, the skilled person would have been well aware of routes of administration, dosage and formulations that may be used to achieve effective immunisation with CtxB, EtxB or their fusion proteins. For example, Svennerholm *et al.* (1984) describes the formulation, dosage and route of delivery of CtxB. It describes formulating CtxB in phosphate buffered saline as used in the *in vitro* examples of the present patent application. Standard approaches for intramuscular and oral vaccination with such formulations are also described. Further documents also provide clear instruction on how to achieve vaccination by other routes for example:

Intranasal route – Bergquist et al. 1997;

Vaginal route – Kozlowski et al 1997;

Rectal route – Jertborn et al. 2001;

Transcutaneous route – Scharton-Kerston et al. 2000.

Copies of the above documents are submitted herewith.

The present application, at page 24, lines 4-28, gives several examples of delivery systems, administration routes and formulations that may be used when putting the methods of the present invention into practice *in vivo.*

Therefore as of the priority date of the present application, a person skilled in the art would have been able to practice the present invention, using mutant B-subunits conjugated to any antigen, *in vivo.* There was sufficient information in the application as filed and in common general knowledge for an appropriate dose, formulation and route of delivery to be chosen routinely to achieve the stimulation of the desired immunological outcome.

The Examiner has asserted that the Applicants have not provided any evidence of specific diseases that the claimed method would treat. However, the present claims do not relate to methods of treatment. The claims relate to methods of delivering a

peptide into the MHC class I antigen processing pathway of an antigent presenting cell. The data provided in the examples demonstrate that the claimed EtxB/CtxB mutants are capable of delivery a peptide into the class I processing pathway. Evidence that the method would treat a disease when used *in vivo* is not needed to provide enablement of the claims.

Accordingly, it is respectfully submitted that the claims of the present application are enabled by the specification, and that the rejection under 35 U.S.C. §112 should be withdrawn.

Respectfully submitted,

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